

From: Hamayasu, Toru
To: Hashiro, Wayne; Agcaoili, Jennifer
CC: Kaku, Melvin N
Sent: 5/16/2007 3:05:50 PM
Subject: FW: Honolulu Agenda Items - Installment #2
Attachments: 2005OBSDistricttoDistrictSummary.xls; mode choice coefficient summary.xls; taztd_majrds.pdf; transitboardscomparison_calibration.xls

Redacted

From: Scheibe, Mark [mailto:Scheibe@pbworld.com]
Sent: Wednesday, May 16, 2007 1:12 PM
To: Hamayasu, Toru
Subject: FW: Honolulu Agenda Items - Installment #2

From: Davidson, William A.
Sent: Wednesday, May 16, 2007 2:11 PM
To: Jim Ryan (fta) (james.ryan@dot.gov)
Cc: Scheibe, Mark; Fujioka, Heather; Wellander, Chris A.
Subject: Honolulu Agenda Items - Installment #2

I have attached three files that related to Items 2.b.5 and 2.b.6 in the proposed agenda. Also attached is a graphical representation of the district map.

Two additional tabs have been added to the mode choice coefficient summary spreadsheet. The tab entitled "constants" summarizes the most recent set of constants developed for the 2005 model calibration. They are displayed in Table 1. It is this model (referred to as model F) that has been used to prepare forecasts for the PE application. Table 2 provides a summary of the constants that were derived for the model used in the AA planning (referred to as model E). The primary differences between the two calibrations are:

1. Use of the 2005 on-board rider survey to develop calibration target values (refer to item 2.b.4);
2. Correction to the representation of the Express Bus constant. In model E it was only applied to walk to Express Bus. In model F it applies to Express bus regardless of access mode;
3. Calibration of the Informal Park-and-Ride constant in Model F. In model E this constant was "asserted".

You will note that the constants on Express Bus are negative. Also note that Express Bus service only exists in the peak. Therefore, the constant is only computed for trip purposes which rely upon peak level-of-service matrices. The sign and magnitude of the Express Bus constants reflect the lack of midday service, the reluctance to park-and-ride to Express Bus and the general level-of-service offered by Express Service.

It is also interesting to note that the informal park-and-ride constants are positive. This reflects the fact that (1) very few transit riders drive to transit (even for auto ownership group 2+ -- never more than 20% drive), (2) those that do drive are kiss-and-ride (80% or more), and (3), of those that do park-and-ride, 90 or more percent are informal park-and-riders.

The fourth tab in the first spreadsheet compares the observed and estimated trip length for all transit trips. Although the model is slightly over-estimating trip length (7.64. v. 7.33 miles) on the average, it does appear to be over-estimating short trips at trip lengths less than 5 miles.

This pattern is further evidenced in the second spreadsheet which compares observed and estimated transit trips on a district level. The first table summarizes the observed and estimated total transit trips by district. These tabulations contain the most recent expansion of the survey (which includes bus stop on) and the newly calibrated model. The second tab summarizes the differences. Two columns are highlighted (in green and yellow respectively) that are important under-estimation of riders to the Central Core and Ala Moana Shopping Center (districts 1 and 3). Waikiki (district 4) is under-estimated at the production end and is highlighted in blue. In the former case (attraction end), I believe that we will need to consider alternative specific constants to address this under-estimation. Both are attractors that the model cannot fully grasp given level-of-service attributes alone.

The third and fourth tabs in the district spreadsheet compare the observed transit trip tables before and after the introduction of bus stop on in the expansion factor computation. There are differences, but none of them appear to be unreasonable. The inclusion of bus stop on in the expansion factor computation addresses the non-response bias generated by those making shorter trips, and therefore, less time to fill out the questionnaire. The fifth and final tab compares the newly expanded observed matrix with Model E. In general, the patterns of under-estimation are identical to the new model.

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